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Amendment to the Specification:

On page 2, please amend the paragraph spanning lines 7-14 to read as follows:

According to the invention, the drive motor is a synchronous motor, wherein the rotor is configured such that it is permanently excited by a permanent magnet. The permanently excited rotor of a synchronous motor has a small mass and a small overall length due to the constantly strong magnetic field and the low power loss. Owing to this fact, all shaft supporting bearing for additionally supporting the drive shaft may possibly be omitted, whereby the problems associated with cooling and lubrication of the supporting bearings are eliminated ~~either~~.

On page 2, please amend the paragraph which begins on line 25 and continues to page 3, line 2 to read as follows:

The motor power results from the following equation:

$$P_M = M_M \times \omega,$$

where

$$\omega = 2\pi \cdot n,$$

P_M is the motor power,

M_M is the motor ~~speed~~ torque at speed n , and

n is the motor speed.

On page 3, please amend the paragraph spanning lines 17-29 to read as follows:

In practical applications, permanently excited motor rotors have so far not been used in vacuum pumps ~~because~~ due the torque, which is maintained constant over the overall speed range owing to the operating principle applied, there was the danger of overheating of the rotor at high speeds caused by the compression heat which increases with the speed. In view of these drawbacks it has so far seemed unrealistic or impossible to use a permanently excited synchronous motor for driving

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a vacuum pump. Owing to the limitation of the motor power in the limiting range caused by the field-weakening operation the compression-induced heating of the motor rotor is limited to a constant value at higher speeds. Only this makes the use of a permanently excited synchronous motor possible and sensible, wherein the maximum torque of the motor can be made use of until the limiting range has been reached.

